REMARKS

Applicants respectfully requests entry of the amendments and remarks submitted herein. Claims 1, 3-7, 9, and 12 are amended, claims 2 and 10 are canceled, and claims 24-33 are added. Therefore, claims 1, 3-9, and 11-32 are currently pending, with claims 22-23 withdrawn from consideration at this time.

Allowed Claims

The Examiner has indicated that claims 3-13 are allowed. New claim 24 is a Markush claim encompassing the features of claims 3-9 and 11. Claims 12-13 and claims 25-31 depend either directly or indirectly from claim 24. Applicant submits that all of these claims are in condition for allowance.

Objection to the Specification

The specification is objected to because the drawing descriptions do not indicate which SEQ ID NO pertains to each amino acid sequence depicted in Drawing 1. The description of the drawing has been amended to correlate the SEQ ID NO with each amino acid sequence. Also, a copy of the Sequence Listing is enclosed for the examiner's convenience.

The Examiner has also objected to the disclosure because the specification should be amended to indicate the status of the parent application. The specification has been so amended.

Applicant requests that these objections be withdrawn.

Claim Rejections – 35 U.S.C. § 102(e)

The Examiner has rejected claims 1, 14 and 15 under 35 U.S.C. § 102(e) as being anticipated by Von Seggern *et al.* (US 2003/0157688).

A rejection of anticipation under 35 U.S.C. § 102 requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon*, 919 F.2d 688, 16 U.S.P.Q.2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). Applicants respectfully submit that the claims are not anticipated by the cited document.

Claim 1 has been amended to recite a method of transducing a cell lacking CAR comprising contacting the cell with an expression vector comprising an Ad backbone nucleic

acid sequence and polynucleotide encoding a chimeric adenovirus (Ad) fiber polypeptide comprising a tail region, a shaft region and a knob region wherein the tail region comprises an adenovirus serotype 5 (Ad5) tail region, the shaft region comprises an adenovirus serotype 30 (Ad30) shaft region, and the knob region comprises an Ad30 knob region. Claims 14 and 15 depend from claim 1.

The examiner concedes at page 4 of the October 26, 2006 Office Action that the teachings of Von Seggern *et al.* are not drawn to using an adenovirus with a chimeric fiber polypeptide comprise of a tail, shaft and/or knob region from Ad30.

Applicants respectfully submit that such a teaching does not disclose the method as claimed. Accordingly, Applicants respectfully submit that because Von Seggern *et al.* lacks the disclosure of each element of the claims under consideration, withdrawal of the rejection of the claims under 35 U.S.C. § 102 is appropriate and is respectfully requested.

Claim Rejections – 35 U.S.C. § 103(a)

The examiner has rejected claims 1, 2, and 14-20 under 35 U.S.C.§ 103(a) as being unpatentable over Von Seggern *et al.* in view of Zabner *et al.* (J. Virology, 1999) and Chillon *et al.* (J. Virology, 1995). In a telephone conference with the Examiner on December 20, 2006, the Examiner clarified that this rejection is to include claim 21 as well.

A rejection of obviousness under 35 U.S.C. § 103 requires that the Examiner establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the Examiner has the burden to establish three basic elements. First, the Examiner must establish that there is some suggestion or motivation, either in the cited documents themselves or in the knowledge generally available to an art worker, to modify the documents or to combine document teachings so as to arrive at the claimed invention. Second, the Examiner must establish that there is a reasonable expectation of success. Finally, the Examiner must establish that the prior art documents teach or suggests all the claim limitations. M.P.E.P. § 2143. Applicants respectfully submit that the Examiner has not demonstrated that the claims are *prima facie* obvious in view of the cited documents, for example, because the Examiner has not established that the prior art documents teach or suggest all the claim limitations, and because the Examiner has not established the suggestion or motivation, either in the cited documents themselves or in the

knowledge generally available to an art worker, to modify the documents or to combine document teachings so as to arrive at the claimed invention.

Claims 1 and 21 are independent claims, and claims 14-20 depend either directly or indirectly from claim 1. Claim 2 has been cancelled.

As discussed above, claim 1 has been amended to recite a method of transducing a cell lacking CAR comprising contacting the cell with an expression vector comprising an Ad backbone nucleic acid sequence and polynucleotide encoding a chimeric adenovirus (Ad) fiber polypeptide comprising a tail region, a shaft region and a knob region wherein the tail region comprises an adenovirus serotype 5 (Ad5) tail region, the shaft region comprises an adenovirus serotype 30 (Ad30) shaft region, and the knob region comprises an Ad30 knob region.

Claim 21 recites a method of transducing a cell lacking CAR comprising contacting the cell with an adenovirus particle comprising an Ad backbone nucleic acid sequence and polynucleotide encoding a chimeric Ad fiber polypeptide comprising a tail region, a shaft region and a knob region, wherein at least one of these regions comprises an Ad30 tail region, an Ad30 shaft region and/or an Ad30 knob region.

Von Seggern *et al.* disclose the use of fiberless adenoviral vectors that are used in conjunction with cell lines that have been modified to express adenoviral fiber proteins. They disclose that the adenoviral fiber protein expressed by the cell line may be a chimeric protein where the tail and shaft is from one adenoviral serotype (*e.g.*, Ad5), and the knob is from a different serotype (*e.g.*, Ad3). Von Seggern *et al.*, however, do not teach or suggest using an adenovirus with a chimeric fiber polypeptide that comprises a tail, shaft and/or knob region from Ad30.

Chillon *et al.* and Zabner *et al.* do not remedy the deficiencies of Von Seggern *et al.* Chillon *et al.* tested the infectivity of various adenoviral serotypes (including Ad30) on CNS cells and HUVEC cells. In these tests, the adenoviral genomes were not chimeric. They also tested chimeric viruses, but the entire fiber gene was from a single adenovirus. They did not teach or suggest the use of chimeric fibers.

Zabner *et al.* discussed the replacement of a whole fiber from Ad2 with a whole fiber from Ad5. They also discuss that the cellular tropism of adenoviruses depends on the fiber knob. They did not, however, teach or suggest the use of chimeric fibers. Further, they did not teach or

suggest a chimeric fiber where the knob and shaft were from one adenoviral serotype (Ad30) while the tail was from another, as recited in claims 1 and 32.

Thus, even when combined, the cited references do not teach the claimed invention because they do not teach all the features of the claimed invention. Von Seggern *et al.* disclose the use of fiberless adenoviral vectors, and Chillon *et al.* and Zabner *et al.* teach the use of a fiber from a single adenovirus. Applicants respectfully submit that the cited references do not disclose the method as claimed. Accordingly, Applicants respectfully submit that withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is appropriate and is respectfully requested.

CONCLUSION

The Examiner is invited to contact Applicant's Representative at the below-listed telephone number if there are any questions regarding this Response or if prosecution of this application may be assisted thereby. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-3503. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extension fees to Deposit Account 50-3503.

Respectfully submitted,

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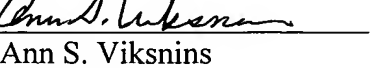
By: 
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